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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,947	06/20/2003	Eric Selvin	42P6933D	9474

8791 7590 01/26/2004

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EXAMINER

PERKINS, PAMELA E

ART UNIT	PAPER NUMBER
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2822

DATE MAILED: 01/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/600,947

Applicant(s)

SELVIN ET AL.

Examiner

Pamela E Perkins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

This office action is in response to the filing of the application papers on 20 June 2003. Claims 1-10 are pending.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4, 5, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inaba (4,841,354) in view of Applicant's prior art.

Inaba discloses a method where a plurality of interconnection metallization layers (4a, 4b, 4c) are formed on a substrate (3); forming a protective structure (4) on a terminal metal layer, which has a continuous loop-like shape (figure 13). Inaba further discloses the second interconnection metallization layer (4b) having a second volume greater than the first volume of the first interconnection metallization layer (4a) (col. 4, lines 32-48; col. 5, lines 11-32). Inaba does not disclose forming a signal line on the second interconnection metallization layer; the signal line coupled to the first interconnection metallization layer.

Applicant's prior art disclose a method where signal lines (104) are formed on a second interconnection metallization layer (M5) (terminal layer) and coupled to a lower layer of metal (applicant's drawing figure 1; applicant's specification, page 2, lines 3-5)

Since Inaba and applicant's prior art are both from the same field of endeavor, a method of manufacturing an integrated circuit, the purpose disclosed by applicant's prior art would have been recognized in the pertinent art of Inaba. Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to modify Inaba by disclose forming a signal line on the second interconnection metallization layer; the signal line coupled to the first interconnection metallization layer as taught by applicant's prior art to protect the signal line against damaging agents (applicant's specification, page 2, lines 9-10).

Referring to claim 8, Inaba does not disclose spacing at least one protective structure approximately 2 microns from the signal line. It would have been obvious to one having ordinary skill in the art at the time invention was made to space at least one protective structure approximately 2 microns from the signal line disclosed in the claimed invention, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233 (CCPA 1955).

Claims 3, 6, 7, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inaba in view of Applicant's prior art as applied to claims 1, 2, 4, 5, 8 and 9 above, and further in view of Tamara (6,078,068).

Inaba discloses a method where a plurality of interconnection metallization layers (4a, 4b, 4c) are formed on a substrate (3); forming a protective structure (4) on a terminal metal layer, which has a continuous loop-like shape (figure 13). Inaba further discloses the second interconnection metallization layer (4b) having a second volume

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greater than the first volume of the first interconnection metallization layer (4a) (col. 4, lines 32-48; col. 5, lines 11-32). Inaba in view of Applicant's prior art do not disclose the protective structures patterned to one of a low rail supply line and a high rail supply line.

Tamura discloses a method where a plurality of protective structures (120, 122), wherein a second protective structure (122) surrounds a first protective structure (120) and (figure 1; col. 5, lines 52-53)

Since Inaba and Tamura are both from the same field of endeavor, a method of manufacturing an integrated circuit, the purpose disclosed by Tamura would have been recognized in the pertinent art of Inaba. Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to modify Inaba by the protective structures patterned to one of a low rail supply line and a high rail supply line as taught by Tamura to serve as a mechanical and electrical barrier to contaminants that may disrupt the operation of the semiconductor die (col. 5, lines 60-64).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pamela E Perkins whose telephone number is (571) 272-1840. The examiner can normally be reached on Monday thru Friday, 9:00am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on (571) 272-1852. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

PEP



Michael Trinh
Primary Examiner

1/04